Appl. No. 10/669,499
Request for Reconsideration dated May 18, 2005
Reply to Office Action of March 3, 2005

REMARKS/ARGUMENTS

This Request for Reconsideration is responsive to the Office Action mailed on March 2, 2005.

Claims 39-62 are pending and subject to examination on the merits.

Claims 46, 47, 57, and 58 are objected to and the Examiner indicates that they contain allowable subject matter. The Examiner is thanked for this indication of allowable subject matter.

Claims 39-45, 48-56, and 59-62 are rejected as being anticipated by Meng et al. (U.S. Patent No. 6,289,287). This rejection is traversed.

Meng et al. fails to anticipate claims 39-48, 48-56, and 59-62. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Here, Meng et al. fails to teach or suggest a number of limitations in independent claims 39, 50, and 60. For example, Meng et al. fails to teach or suggest a method for analyzing mass spectra, the method comprising, *inter alia*, "(c) selecting one or more signal clusters from the plurality of signal clusters if the number of signals in a signal cluster exceeds a predetermined number of signals" as recited in independent claim 39. Independent claims 50 and 60 have a similar limitation.

In embodiments of the invention, one may select one or more signal clusters from the plurality of signal clusters if the number of signals in a signal cluster exceeds a predetermined number of signals. This is done to filter out signals that may not be meaningful in a subsequent analysis. This process is explained at page 19, lines 20-35 of the specification:

> Signals corresponding to the presence of a potential marker are identified in each spectrum. Each such signal is assigned a mass value. Signals above a predetermined signal-to-noise ratio in each mass spectrum in the first group of mass spectra are then detected (step **28**). In a typical example, signals with a signal-to-noise ratio greater than a value S may be detected. The value S may be an absolute or a relative value. Then, signals at the mass-to-charge

> ratios in the mass spectra are clustered together (step **30**). Signal clusters that meet predetermined criteria are then selected. For example, in one embodiment, signal clusters having a predetermined number of signals can be selected (step **32**). Clusters having less than the predetermined number are discarded. In a typical example, if the number of signals in a cluster is less than 50% of the number of mass spectra, then the signal cluster can be discarded. In some embodiments, the selection process results in anywhere from as few as about 20 to more than about 200 selected signal clusters. Once the signal clusters are selected, the mass-to-charge ratios for these signal clusters can be identified (step **34**).

In a specific example of an embodiment of the invention, if one hundred mass spectra are created and there is only one signal at a mass-to-charge ratio of X, then that one signal and its corresponding mass-to-charge ratio of X would be excluded from subsequent data analysis since it only occurred once in one hundred samples. In contrast, if there are 50 signals at a mass-to-charge ratio of Y in the one hundred mass spectra, this would indicate that the mass-to-charge ratio of Y is of potential significance and subsequent data analysis would take into account the mass-to-charge ratio of Y and the 50 signals at the mass-to-charge ratio of Y. By filtering out signal clusters and mass-to-charge ratios that are potentially less important, subsequent data analysis is less complicated and faster since less data is analyzed. No such process or goal is taught or suggested by Meng et al.

To meet the limitation "(c) selecting one or more signal clusters from the plurality of signal clusters if the number of signals in a signal cluster exceeds a predetermined number of signals", the Examiner relies on "Col. 2, lines 30-59, fig. 2, unit 203" of Meng et al. "Unit 203" in FIG. 2 merely states "classification analysis" and does not, by itself, teach or suggest "(c) selecting one or more signal clusters from the plurality of signal clusters if the number of signals in a signal cluster exceeds a predetermined number of signals". Col. 2, lines 30-59 also fails to teach or suggest this limitation. Col. 2, lines 30-59 state:

> According to the present invention, a method may be carried out for classifying a complex sample and for identification of an anomalous sample component in a complex sample, wherein the

> complex sample is provided in a group of complex samples. The method includes the steps of: providing the group of complex samples to a sampler; sampling a quantity of each of the complex samples so as to provide a respective quantity of vapor phase molecules of the respective complex sample to a mass sensor; deriving a mass spectrum representative of the masses in each of the complex samples analyzed by the mass sensor, so as to generate a plurality of mass spectra; providing the mass spectra to a computer in a data matrix; performing an exploratory data analysis of the data matrix using at least one set of principal components; performing a classification method analysis using a soft independent modeling of class analogy (SIMCA) technique, wherein the masses exhibiting a high discriminating power are selected; performing, with use of each of the selected masses that exhibit a high discrimination power, a mass correlation analysis with respect to each selected mass so as to determine a set of at least three correlated masses; comparing each of the three correlated masses to mass spectra in a mass spectra library so as to identify at least one candidate mass spectrum that is associated with the correlated masses and which is potentially indicative of a respective differentiating sample component; reviewing the candidate mass spectrum to select the differentiating sample component that is associated with the correlated masses; and identifying the selected differentiating sample component.

The cited passage provides a summary of Meng et al.'s invention. In Meng et al., mass spectra are created and are input into a computer, which performs a class analogy technique. Masses exhibiting the highest discriminating power are then selected and these masses are used to identify at least one candidate mass spectrum which is potentially indicative of a respective differentiating sample component. Neither column 2, lines 30-59 nor FIG. 2 nor any other portion of Meng et al. teaches or suggests "(c) selecting one or more signal clusters from the plurality of signal clusters if the number of signals in a signal cluster exceeds a predetermined number of signals". Since Meng et al. does not teach each and every element of the claims, Meng et al. does not anticipate the claims and withdrawal of the anticipation rejection is requested.

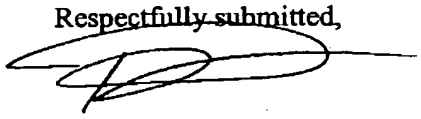
Should the Examiner maintain the rejection based on Meng et al., the Examiner is specifically requested to identify the exact teaching in Meng et al. that meets the limitation "(c)

selecting one or more signal clusters from the plurality of signal clusters if the number of signals in a signal cluster exceeds a predetermined number of signals".

CONCLUSION

In view of the foregoing, Applicants believe that the claims are in condition for allowance. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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